

Appointment Status

Associate Professor

Geography, Arts and Sciences, Queen's University at Kingston
Full-time, Term, Associate Professor
Tenure Status: Tenure

Academic Background

- 2004/6 Post-doctorate - Effects of glacier melt on water resources in the prairies - University of Alberta, Drs. Martin Sharp, David Schindler (2003/9 / 2004/6)
- 2003/9 Doctorate - Glacial hydrology, hydrochemistry - University of Alberta
Supervisor: Martin J. Sharp 1997/9-2003/9
- 1996/4 Bachelor's - Environmental Science and Resource Management - University of Western Ontario

Work Experience

- 2011/7 Associate Professor
Geography, Arts and Sciences, Queen's University at Kingston
Full-time, Term, Associate Professor
Tenure Status: Tenure
- 2004/7 Assistant Professor
Geography, Arts and Sciences, Queen's University at Kingston
Full-time, Term, Assistant Professor
Tenure Status: Tenure-track
- 2004/1 Instructor - Sessional - Part-time - Lecturer
University of Alberta - Science - Biological Sciences
Tenure Status: Non Tenure Track

Distinctions, Awards and Credentials

- 2012/9 - 2013/4 Julian Szeicz Excellence in Teaching Award
Queen's University at Kingston
Distinction
Student-selected award for Excellence in Teaching

Professional Memberships

- Arctic Institute of North America 2007/1-2018/1
- Canadian Geophysical Union 2007/7-2018/1
- American Geophysical Union 2007/7-2018/1

Undergraduate Teaching and Course Development

2005/1 - present	Instructor and Course Designer, Queen's University at Kingston Course Title: GPHY 411 Biogeochemical Cycles Course Level: Undergraduate Honours Seminar
2005/1 - present	Instructor and Course Designer, Queen's University at Kingston Course Title: GPHY 208 Geomorphology and Pedology Course Level: Undergraduate
2006/9 - present	Instructor and Course Designer, Queen's University at Kingston Course Title: GPHY 311 Watershed Hydrology Course Level: Undergraduate
2007/9 - present	Co-Instructor and Co-Course Designer, Queen's University at Kingston Course Title: GPHY 103 Freshwater Resources Course Level: Undergraduate
2010/4	Co-Instructor and Co-Course Designer, Queen's University at Kingston Course Title: GPHY 307 Field Studies in Physical Geography Course Level: Undergraduate

Undergraduate Supervisory Experience (18 Thesis, 12 Research Assistants)**Thesis**

2017/9- 2018/4 Co Supervisor	Boomer, Hannah, Bachelor's Honours (In Progress) Thesis Title: Hydrochemical response of High Arctic Lakes to climate variability, Apex River watershed, Melville Island, NU.
2015/9- 2016/4 Principal Supervisor	Rusk, Bridget, Bachelor's Honours (Completed) Thesis Title: Investigating the importance of subsurface water contributions to surface runoff at the Apex River watershed, Melville Island, NU.
2015/9- 2016/4 Principal Supervisor	Thiel, Gilian, Bachelor's Honours (Completed) Thesis Title: Investigating the relationship between seasonal hydrology and microbiological indicators in the Apex River Watershed (Iqaluit, Nunavut).
2014/9- 2015/4 Principal Supervisor	Papernick, Josh, Bachelor's Honours (Completed) Thesis Title: Investigating the impact of disturbances and subsurface water sources on dissolved nitrogen concentrations at the Cape Bounty Arctic Watershed Observatory, Melville Island, NU.
2014/9- 2015/4 Principal Supervisor	Steer, Luke, Bachelor's Honours (Completed) Thesis Title: Tracing the seasonal evolution of water sources and flowpaths in the Apex River Watershed, Iqaluit, Nunavut
2014/9- 2015/4 Principal Supervisor	Burd, Katie, Bachelor's Honours (Completed) Thesis Title: Watershed scale, and seasonal variability in the fluorescence composition of dissolved organic matter at the Apex River Watershed, Iqaluit,

Nunavut

- 2013/9- 2014/4
Principal Supervisor
Chan, Lily, Bachelor's Honours (Completed)
Thesis Title: Sources and composition of dissolved nitrogen in active layer soils in the Canadian High Arctic
- 2012/9- 2013/4
Principal Supervisor
Rutherford, Kristen, Bachelor's Honours (Completed)
Thesis Title: Fluorescence characterization of dissolved organic matter (DOM) in High Arctic rivers.
- 2010/9- 2011/4
Principal Supervisor
Munroe, Heather, Bachelor's Honours (Completed)
Thesis Title: Permafrost disturbance impacts on carbon fluxes in runoff.
- 2010/9- 2011/4
Principal Supervisor
Neil, Allison, Bachelor's Honours (Completed)
Thesis Title: Disturbance impacts on total watershed carbon exports.
- 2009/1- 2009/12
Principal Supervisor
Denaburg, Beth, Bachelor's Honours (Completed)
Thesis Title: Weathering of Nitrogen from sedimentary rocks
- 2008/9- 2009/4
Principal Supervisor
Wakeman, Kay, Bachelor's Honours (Completed)
Thesis Title: Application of GIS modelling to hydrochemical investigations.
- 2007/9- 2008/4
Principal Supervisor
Bosquet, Lynne, Bachelor's Honours (Completed)
Thesis Title: Diurnal hydrochemical variations in High Arctic watersheds
- 2007/9- 2008/4
Co-Supervisor
Cooledge, Tom, Bachelor's Honours Bristol University, UK. Co-supervised (M. Tranter)
Thesis Title: Variations in glacial hydrochemistry at Robertson Glacier
- 2007/9- 2008/4
Co-Supervisor
DeFonBlancque, Philpa, Bachelor's Honours Bristol University, UK. Co-supervised (M. Tranter)
Thesis Title: Supraglacial water chemistry on Robertson Glacier, Alberta
- 2006/9- 2007/4
Co-Supervisor
Duncanson, Laura, Bachelor's Honours (Completed)
Thesis Title: Precipitation quality in the Rocky Mountain Front Ranges, NSERC USRA
- 2006/9- 2007/4
Principal Supervisor
Robbins, Stephanie, Bachelor's Honours (Completed)
Thesis Title: Geologic N: a possible source of NO₃⁻ in glacier runoff
- 2005/9- 2006/4
Principal Supervisor
Snidder, Nicole, Bachelor's Honours (Completed)
Thesis Title: Small scale, seasonal and altitudinal variations in N deposition from snow and rainfall

Research Assistants

- 2017/11 - 2018/4
Supervisor
Elaine, Lu, BSc.H. Environmental Science
Laboratory Assistant, Work Study
- 2017/5 - 2017/9
Supervisor
Holman, Alison, B.ApSc,
Summer Laboratory Research Assistant
- 2017/1 - 2017/4
Supervisor
Shushong, Lin, B.Sc. H., Geography
Laboratory Assistant, Work Study

2016/4 - 2016/8 Supervisor	Harbec, Evan BSc.H. Geography Summer Research Assistant, Apex River
2014/4 - 2014/8 Co Supervisor	Skarup, Electra BSc.H Geography Summer Research Assistant, Apex River
2014/4 - 2014/8 Co Supervisor	Bocking, Nigel BSc.H Geology Summer Research Assistant, Cape Bounty
2011/9 - 2012/4 Principal Supervisor	Morra, John B.Sc.H. Geology Laboratory research assistant
2011/1 - 2011/4 Principal Supervisor	Paquette-Struger, Ben – Bachelor's Honours Research Associate
2009/1- 2009/12 Principal Supervisor	Lafleche, Patrick - Bachelor's Honours - Completed Field Research Assistant
2008/5- 2008/9 Principal Supervisor	McGoldrick, Curniss BSc. - Bachelor's Honours Geography and Geology, Sole
2008/5 – 2008/9 Principal Supervisor	Gordon, Andrea BSc. Geography and Geology, Sole
2007/1 - 2007/12 Principal Supervisor	Brown, Jennifer - Research Associate - Completed

Graduate Teaching and Course Development

2006/1 - present	Instructor and Course Designer, Queen's University Course Title: GPHY 823 Biogeochemical cycling in cold regions Course Level: Graduate
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Graduate and Postdoctoral Supervision (10 MSc, 4 PhD, 6 PDF, 2 Technicians)

2017/07 – present Principal Supervisor	Heslop, Joanne, Robert Gilbert PDF (In Progress) Coupling dissolved organic matter biogeochemistry with microbial data to better understand how permafrost thaw and disturbance alters carbon cycling dynamics
2015/11 – 2017/7 Co-Supervisor	Rioux, Karine – MSc (Université de Montréal) Impacts of climate warming and permafrost change on dissolved organic matter composition in the Canadian Arctic
2015/11 – 2017/7 Principal Supervisor	Fouché, Julien, PDF (Completed) Impacts of climate warming and permafrost change on dissolved organic matter composition in the Canadian Arctic Present Position: Research Scientist, Université de Liège, Belgium
2016/9 - present	Momejian, Nanor –PhD (In progress)

Principal Supervisor	Development of a hydrological model for dissolved organic carbon flux from High Arctic permafrost watersheds
2016/9 - present Principal Supervisor	Thiel, Gillian - MSc (In Progress) Student Degree Expected Date: 2018/7 Thesis Title: Landscape and disturbance controls on dissolved organic matter lability in High Arctic watersheds
2015/9 - present Principal Supervisor	Gillman, Matt - MSc (In Progress) Student Degree Expected Date: 2018/7 Thesis Title: Effects of Permafrost Thaw on Subsurface Flow Pathways and Nutrient Delivery in High Arctic Rivers Present Position: Junior Hydrologist, Hatfield Consultants, Part-Time MSc student
2016/9 – 2017/1 Principal Supervisor	Van Poppellen, Shawna MSc (withdrawn) Present Position: unknown
2014/6 - present Principal Supervisor	Koziar, Steve - Research Associate (In progress) Thesis/Project Title: Water quality and geochemical analyses
2013/9 - 2016/4 Principal Supervisor	Ghimirie, Leknath - Doctorate (withdrawn) Student Degree Expected Date: 2017/9 Thesis Title: The transformation and transport of DOM and N in permafrost soils and surface waters Present Position: unknown
2012/9 - 2016/2 Co- Supervisor	Kjikjerkovska, Elizabeth - Master's Thesis (Completed) Student Degree Expected Date: 2015/6 Thesis Title: Long term hydrological change and contemporary water sources Apex River, Baffin Island, Nunavut Present Position: Hydrologist, Hatfield Consultants
2011/9 - 2015/9 Co- Supervisor	Lamhonwah, Daniel - Doctorate (In Progress) Student Degree Expected Date: 2015/9 Thesis Title: Impact of changing permafrost on hydrology in the High Arctic. Present Position: Part-time PhD student, Queen's University
2013/6 - 2013/12 Principal Supervisor	Bonaventure, Phillip - Post-doctorate (Completed) Project Title: Spatial modelling of controls on water quality and geochemistry of permafrost watersheds. Present Position: University of Lethbridge, Assistant Professor
2011/9 - 2013/9 Principal Supervisor	Montross, Scott - Post-doctorate (Completed) Project Title: Geochemical and microbiological impacts of permafrost thaw. Present Position: Instructor, Montana State University
2011/9 - 2013/9 Principal Supervisor	Montross, Galena - Research Associate Project Title: Water quality and geochemical analyses Present Position: Technician, Montana State University

2011/9 - 2014/4 Principal Supervisor	Louiseize, Nicole - Master's Thesis (Completed) Thesis Title: Impact of permafrost stability on watershed N budget.
2009/9 - 2012/9 Principal Supervisor	Doxey-Whitfield, Erin - Master's Thesis (Completed) Thesis Title: Microbial nitrate production in a glaciated alpine catchment.
2009/9 - 2010/9 Co-Supervisor	Lewis, Ted - Post-doctorate (Completed) Project Title: Modelling climate and disturbance impacts on runoff. Present Position: Hatfield Consultants, British Columbia
2009/1 - 2009/12 Principal Supervisor	Chutko, Krystopher - Post-doctorate - Completed Project Title: Permafrost disturbance impacts on solute fluxes in runoff. Present Position: Assistant Professor, University of Saskatchewan
2008/9 - 2014/9 Principal Supervisor	Wasiuta, Vivian - Doctorate (Completed) Thesis Title: Deposition of sulphate and nitrate in glacial environments Present Position: PDF, University of Alberta
2007/9 - 2010/9 Principal Supervisor	Laurin, Emil - Master's Thesis (Completed) Thesis Title: Impact of snow augmentation on soils and nutrient fluxes.
2007/9 - 2010/9 Co-Supervisor	Koziar, Steve - Research Associate Thesis/Project Title: Water quality and geochemical analyses Present Position: Technical Research Associate, Queen's University
2007/9 - 2011/9 Co-Supervisor	Fletcher, James - Master's Thesis (Withdrawn) Thesis Title: Geomorphic and hydrologic controls on Particulate C flux.
2005/9 - 2008/6 Co-Supervisor	McLeod, Brock - Master's Thesis (Completed) Thesis Title: Influence of snowcover on nutrient fluxes in High Arctic catchment

Membership on Graduate Examining, Supervisory & Advisory Committees

<u>Name of Student</u>	<u>Department</u>	<u>University</u>	<u>Your Role</u>	<u>Years</u>
Yao Feng	Geography	Queen's	Chair, PhD Comp	2017
Kaitlyn Roberts	Geography	Queen's	Internal, MSc Thesis	2017
Casey Beel	Geography	Queen's	Internal, PhD Comp	2017
Katherine Griffiths	Biology	Queen's	Internal External, PhD thesis	2015-2017
Sivarajah ,Branavan	Biology	Queen's	Internal External, MSc Thesis	2015-2016
Jean Holloway	Geography	Queen's	Internal, MSc Thesis exam	(2014)
Katherine Dearborn	Geography	Queen's	Chair, PhD comp exam	(2014)
Hong Yao	Geography	Queen's	Chair, PhD comp exam	(2014-2015)
Laurence Simard-Gagnon	Geography	Queen's	Chair, PhD comp exam	(2014-2015)

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Associate Professor

Ashley Rudy	Geography	Queen's	Head's Delegate, PhD(2013) comp exam
Max Boreux	Geography	Queen's	Chair, PhD comp (2013) exam
Alysa Azmi	Chemistry	Queen's	Internal External, (2013) MSc Thesis exam
Veillette, Maryse	Geography	Queen's	Internal, MSc Thesis (2011) exam
Griffiths, Katherine	Biology	Queen's	Internal/External, (2010- PhD Qualifying 2015)
Dugan, Hilary	Geography	Queen's	Internal, MSc (2010) Defense
Bosquet, Lynne	Geography	Queen's	Chair/Head Delegate (2010) MSc Defense
Laura Richardson	Geology	Queen's	M.Sc. defense, (2009) internal/external
Mansour Khazaali	Geography	Queen's	Ph.D. (2009) qualifying/head's delegate
Moos, Melissa	Biology	Queen's	Internal/External, (2007-2010) PhD Defense, committee
Laura Chasmer	Geography	Queen's	Ph.D. defense, Head's (2008) Delegate
David Fortin	Geography	Queen's	Ph.D. defense, Head's (2008) Delegate
Stephanie DeSisto	Geology	Queen's	M.Sc. defense, (2008) internal/external
Josh Theinpont	Biology	Queen's	Ph.D. committee, (2008-2013) Internal/external
Mathew Vankoughnett	Biology	Queen's	M.Sc. committee, (2008-2009) internal/external
Kathryn McCleary	Biology	Queen's	M.Sc. committee, (2008-2009) internal/external
Dana McDonald	Geography	Queen's	M.Sc. defense, (2007) Examiner
Michael Cooley	Geology	Queen's	Ph.D. defense, (2007) Internal/External
Meghan Kinahan	Chemistry	Queen's	M.Sc. defense, (2007) Internal/External
Todd French	Biology	Queen's	Ph.D. comp, (2007-2008) Internal/External

Publications

Lifetime summary:

Refereed articles (accepted or published):	39
Refereed articles (submitted):	2
Non-refereed articles:	4
Refereed Reports/book chapters:	3
Non-refereed conference publications	

(excludes presentations at local and regional conferences): 99

Journal Articles

Christiansen CT, Lafrenière MJ, Grogan P. (accepted). Long-term deepened snow depletes tundra mineral soil carbon and promotes evergreen shrub dominance. *Global Change Biology*, accepted January 2018 .

Wang J-J, Lafrenière MJ, Lamoureux SF, Simpson A, Simpson M (2018) Differences in riverine and pond water dissolved organic matter composition and sources in the Canadian High Arctic with active layer detachments, *Environmental Science & Technology*, es-2017-03669g.

Roberts KE, Lamoureux SF, Kyser TK, Muir DCG, Lafrenière MJ, Iqaluk D, Pienkowski AJ, Normandeau A (2017) Climate and permafrost effects on the chemistry and ecosystems of High Arctic Lakes, *Nature Scientific Reports*, 7(1), 13292.

Lamoureux SF, Lafrenière MJ (2017) More than just snowmelt: integrated watershed science for changing climate and permafrost at the Cape Bounty Arctic Watershed Observatory. *Wiley Interdisciplinary Reviews (WIREs) Water*.

Gillman M, Lamoureux SF, Lafrenière MJ (in press) Calibration of a modified temperature-light intensity logger for quantifying water electrical conductivity, *Water Resources Research* 53(9), 8120-8126.

Inglese C, Christiansen C, Lamhonwah D, Moniz K, Montross S, Lamoureux SF, Lafrenière MJ, Grogan P, Walker VK (2017) Examination of soil microbial communities after permafrost thaw subsequent to an active layer detachment in the High Arctic, *Arctic, Antarctic and Alpine Research* 49(3), 455-472.

Lafrenière MJ, Louiseize NL, Lamoureux SL (2017) Active layer slope disturbances affect seasonality and composition of dissolved nitrogen export from High Arctic headwater catchments. *Arctic Science*. 3(2): 429-450, <https://doi.org/10.1139/as-2015-0009>

Lamhonwah D, Lafrenière MJ, Lamoureux SF, Wolfe BB (2017) Evaluating the hydrological and hydrochemical responses of a High Arctic catchment during an exceptionally warm summer. *Hydrological Processes*, 31:2296–2313. DOI: 10.1002/hyp.11191

Fouché J, Lafrenière MJ, Rutherford K, Lamoureux SF (2017) Seasonal hydrology and permafrost disturbance impacts on dissolved organic matter composition in High Arctic headwater catchments. *Arctic Science*, 3(2): 378-405, <https://doi.org/10.1139/as-2016-0031>

Lamhonwah D, Lafrenière MJ, Lamoureux SF, Wolfe BB (2017) Multi-year impacts of permafrost disturbance and thermal perturbation on High Arctic stream chemistry. *Arctic Science*, 3(2): 254-276, <https://doi.org/10.1139/as-2016-0024>

Grewer, DM, Lafrenière MJ, Lamoureux SF, Simpson MJ (2016) Redistribution of soil organic matter by permafrost disturbance in the Canadian High Arctic. *Biogeochemistry*, 128: 397-415.

Wasiuta VW, Norman A-L, Lafrenière MJ (2015) Background atmospheric sulfate deposition at a remote alpine site in the Southern Canadian Rocky Mountains. *Journal of Geophysical Research* –

Atmospheres, 120: 11,352-11,367, doi:10.1002/2015/JD023835

Holloway J, Lamoureux SF, Montross S, Lafrenière MJ (2016). Hydroclimatic and Landscape Controls over Mudboil Formation in the Canadian High Arctic. *Permafrost and Periglacial Processes*. 27(2): 204-218.

Wasiuta VW, Lafrenière MJ, Norman A-L, Hastings M (2015) Summer deposition of sulfate and reactive nitrogen to two alpine valleys in the Canadian Rocky Mountains, *Atmospheric Environment*, 101:270-285.

Wasiuta VW, Lafrenière MJ, Norman A-L (2015) Atmospheric nitrogen and sulfur deposition in the Southern Canadian Rocky Mountains. *Journal of Hydrology*, 523: 563-573

Grewer DM, Lafrenière MJ, Lamoureux SF, Simpson MJ (2015) Potential shifts in Canadian High Arctic sedimentary organic matter composition with permafrost active layer detachments. *Organic Geochemistry* 79: 1-13.

Young KL, Lafrenière MJ, Lamoureux SF, Abnizova A, Miller E (2015) Seasonal stream regimes and Multi-Year water budgets of hillslope catchments at Polar Bear Pass and Cape Bounty, Nunavut Including Comparisons to other small Arctic Watershed Studies, *Hydrology Research*, 46(4): doi:10.2166/nh.2014.004

Abnizova, A., Young, K., and Lafrenière, M.J. 2014. Pond hydrology and dissolved carbon dynamics at Polar Bear Pass wetland, Bathurst Island, Nunavut, *Ecohydrology*, 7: 73-90.

Lafrenière MJ, Lamoureux SF. 2013. Thermal perturbation and rainfall runoff have greater impact on seasonal solute loads than physical disturbance of the active layer. *Permafrost and Periglacial Processes*, 24: 241-251.

Mitchell AC, Lafrenière MJ¹, Skidmore ML, Boyd E 2013. Influence of bedrock mineral composition on microbial diversity in a subglacial environment, *Geology*, G34194.1

Lafrenière, M. J., Laurin, E., and S.F. Lamoureux. 2013. Impact of snow augmentation on solute fluxes from High Arctic headwater catchments. *Vadose Zone Journal* 12: vzj2012.0058

Lewis T., Lafrenière, M. J., and S.F. Lamoureux 2012. The impact of permafrost disturbances and climate on runoff chemistry of two High Arctic rivers. *Hydrological Processes*, 26: 2003-2018

Dugan H., Lamoureux S.F., Lafrenière, M. J., and T. Lewis. 2012. The impact of permafrost disturbances and sediment loading on the limnological characteristics of two high arctic lakes. *Permafrost and Periglacial Processes* 23: 119-126.

Woods, G.C., Simpson, M. J., Pautler, B. G., Lamoureux, S.F., Lafrenière, M.J. and André J. Simpson 2011. Evidence for the enhanced lability of dissolved organic matter following permafrost slope disturbance in the Canadian High Arctic, *Geochimica et Cosmochimica Acta*. 75(22): 7226-7241

Lafrenière, M.J. and K.E. Sinclair 2011. Snowpack and precipitation chemistry at a high altitude site in the Canadian Rocky Mountains, *Journal of Hydrology*, 409:737-748,

Boyd, E. S., Lange, R. K., Mitchell, A. C., Havig, J. R., Hamilton, T. L., Lafrenière, M. J., Shock, E. L., Peters, J. W., Skidmore, M. 2011. Diversity, Abundance, and Potential Activity of Nitrifying and

Nitrate Reducing Microbial Assemblages in a Subglacial Ecosystem, *Applied Environmental Microbiology*, 77:14 4778-4787

Lamoureux, S.F. and M.J. Lafrenière 2009. Fluvial impact of extensive active layer detachments, Cape Bounty, Melville Island, Canada, *Arctic, Antarctic and Alpine Research*, 41(1):59–68.

Dugan, H., Lamoureux, S.F., Lafrenière, M.J. and T. Lewis 2009. Major hydrological and sediment yield response to summer rainfall in a small High Arctic watershed, *Hydrological Processes*, 23:1514–1526

Lafrenière M. and S. F. Lamoureux 2008. Seasonal dynamics of dissolved nitrogen exports from two High Arctic watersheds, Melville Island, Canada, *Hydrology Research*, 39 (4): 324-335.

Lafrenière, MJ, Sharp, MJ, Blais, JM, Schindler, DW (2006) Organochlorine pesticide and polychlorinated biphenyl concentrations in snow, snowmelt, and runoff at Bow Lake, Alberta. *Environmental Science & Technology*, 40(16): 4909-4915.

Lamoureux SF, McDonald D, Cockburn J, Lafrenière MJ, Atkinson D, Treitz P (2006) An incidence of multi-year sediment storage on channel snowpack in the Canadian High Arctic. *Arctic*, 59(4): 381-390.

Lafrenière MJ, Sharp MJ (2005) A comparison of solute fluxes and sources from glacial and non-glacial catchments over contrasting melt seasons. *Hydrological Processes*, 19: 2991-3012.

Lafrenière MJ, Sharp MJ (2004) The concentration and fluorescence of dissolved organic carbon (DOC) in glacial and non-glacial catchments: interpreting hydrological flow routing and DOC sources. *Arctic, Antarctic, and Alpine Research*, 36(2):156-165

Lafrenière MJ, Sharp MJ (2003) Wavelet analysis of inter-annual variability in the runoff regimes of glacial and nival stream catchments, Bow Lake, Alberta. *Hydrological Processes*, 17:1093-1118.

Blais J, Schindler DW, Sharp MJ, Braekevelt E, Lafrenière MJ, McDonald K, Muir DCG, Strachan WMJ (2001) Fluxes of semi-volatile organochlorine compounds in Bow Lake, a high altitude, glacier-fed, sub-alpine lake in the Canadian Rocky Mountains, *Limnology and Oceanography*, 46(8): 2019-2031.

Blais J, Schindler DW, Muir DCG, Sharp MJ, McDonald K, Lafrenière MJ, Braekevelt E, Strachan WMJ, Comba M, Backus M (2001) Melting glaciers dominate sources of persistent organochlorines to subalpine Bow lake in Banff National Park, Canada, *Ambio*, 30(7):410-415.

Refereed Book Chapters and reports

Lafrenière MJ, Lamoureux SF, Young KL, Vincent WF, Muir DCG, Kirk JL (in press) Drivers, trends and uncertainties of changing freshwater systems in the Eastern Canadian Arctic, In Bell and Brown, From Science to Policy in the Eastern Canadian Arctic: An Integrated Regional Impact Study (IRIS) of Climate Change and Modernization. ArcticNet, Quebec City, 432 pp.

AMAP (in press) Adaptation Actions for a Changing Arctic – Perspectives from the Baffin Bay/Davis Strait Region. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway. vii + xxxpp

Chiasson-Poirier, G., Franssen, J., Fortier, D., Prince, A., Tremblay, T., Lafrenière, M., Shirley, J. and Lamoureux, S. 2017: Methodological approach to characterize flow paths and water sources during the

active-layer thaw period, Niaqunguk River watershed, Iqaluit, Baffin Island, Nunavut; in Summary of Activities 2016, Canada-Nunavut Geoscience Office, p. 105–120.

Conference Presentations (last 6 years)

Cabrerizo A, Muir DCG, De Silva A, Iqaluk D, Wang X, Lamoureux SF, Lafrenière MJ (2017) Influence of Permafrost Disturbances and Climate Change on Temporal series of Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides and Perfluoroalkyl Substances in Arctic Char. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p. 183.

Rioux K, Fortier D, Lafrenière MJ (2017) Impacts of thermal erosion gullying on carbon, nutrients and sediment fluxes, Bylot Island, Nunavut, International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p. 423

Paquette M, Fortier D, Lafrenière M, Vincent WF (2017) Landforms and snowpack hydrology in the High Arctic: snow redistribution shapes polar desert landscapes. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.144

Muir DCG, Wang X, Cabrerizo A, Kirk J, Iqaluk D, Roberts K, Pope M, Lamoureux SF, Lafrenière MJ (2017) Influence of Permafrost Disturbances and Increased Turbidity on Trends of Mercury and other Elements in Arctic Char in East and West Lake, Melville Island, Nunavut, International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.157.

Lamoureux SF, Lafrenière MJ (2017) Watershed impacts from permafrost change and disturbance in the High Arctic. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.223.(INVITED)

Lamoureux SF, Roberts K, Kyser TK, Lafrenière MJ, Muir DCG, Iqaluk D, Pieńkowski AJ, Normandeau A (2017) Rapid lake hydrochemical and ecosystem change in High Arctic lakes due to permafrost change. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.223

Thiel G, Lafrenière MJ, Fouché J, Lamoureux SF (2017) Dissolved organic matter lability and optical properties in the surface waters of a High Arctic watershed. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.345

Chiasson-Poirier G, Franssen J, Legendre P, Lafrenière MJ, Lamoureux SF, Fortier D, Prince A. (2017) Linking dominant physical controls on subsurface flow patterns with spatial extent of hydrological connectivity during the thaw period, Niquunguk River, Iqaluit, Nunavut. International Arctic Change Conference, Quebec City, December 11-15, 2017. Program and Abstracts, p.371

Fouché J, Christiansen C, Lafrenière M, Grogan P, Lamoureux SF (2017) A Pan-Canadian study of optical properties of dissolved organic matter in the active layer and permafrost, Goldschmidt 2017, Paris, France, August 13-18, 2017.

Lamoureux SF, Roberts K, Kyser TK, Lafrenière MJ, Muir DCG, Iqaluk D, Pieńkowski AJ, Normandeau A (2017) Rapid lake hydrochemical and ecosystem change in High Arctic lakes due to permafrost change, Asian Conference on Permafrost, Sapporo, Japan, July 2-6, 2017.

Thiel G, Fouché F, Lafrenière MJ, Lamoureux SF (2017) Spatial controls on the lability of dissolved organic matter in a High Arctic watershed, Canadian Geophysical Union (CGU) – Canadian Society of Agricultural and Forest Meteorology (CSAFM) National Meeting, Vancouver, Canada, May 28 - 31, 2017, Conference Program, p 40.

Schevers A, Lamoureux SF, Lafrenière MJ, Beel C (2017) Long-term dissolved inorganic nitrogen fluxes from paired watersheds in the Canadian High Arctic, Canadian Geophysical Union (CGU) – Canadian Society of Agricultural and Forest Meteorology (CSAFM) National Meeting, Vancouver, May 28 - 31, 2017, Conference Program, p 41.

Chiasson-Poirier G, Franssen J, Fortier D, Tremblay T, Lafrenière MJ, Shirley J, Lamoureux SF (2017) Hydrogeomorphic factors controlling the routing of surface and shallow groundwater flows in permafrost environments, Canadian Geophysical Union (CGU) – Canadian Society of Agricultural and Forest Meteorology (CSAFM) National Meeting, Vancouver, May 28 - 31, 2017, Conference Program, p 11.

Lafrenière MJ, Fouché J, Wang J, Simpson MJ, Lamoureux SF, Hastings MG. (2016) A synthesis of collaborative integrated studies of permafrost disturbance impacts on carbon and nitrogen composition and export GC33G-03 (*Invited-Oral*) American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec 12-16, 2016.

Fouché J, Christiansen C, Lafrenière MJ, Grogan P, Lamoureux SF (2016) A Pan-Canadian study of optical properties of soil dissolved organic matter in the active layer and permafrost, ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Oral Abstracts, p 76.

Gillman MS, Lamoureux SF, Lafrenière MJ (2016) Seasonal development of subsurface flow pathways, hydraulic gradients, and nutrient delivery to a small High Arctic river, ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Poster Abstracts, p 86.

Lafrenière MJ, Lamoureux SF (2016) A conceptual model of the potential scale and duration of climate change impacts on High Arctic water quality, ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Poster Abstracts, p 119.

Chiasson-Poirier G, Franssen J, Tremblay T, Fortier D, Lafrenière MJ, Lamoureux SF (2016) Flow paths and water sources during the thaw period of a hillslope underlain by permafrost, Apex River watershed, Iqaluit, NU. ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Poster Abstracts, p 40.

Muir DCG, Wang X, Cabrerizo-Pastor A, Kirk JL, Iqaluk D, Roberts K, Lamoureux SF, Lafrenière MJ (2016) Trends of mercury and other elements in Arctic char in East and West lake, Cape Bounty Arctic Watershed Observatory, Melville Island, NU. ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Poster Abstracts, p 148.

Pouliot LG, Franssen J, Chiasson-Poirier G, Tremblay T, Lafrenière MJ, Lamoureux SF (2016) Geomorphic controls on the spatial distribution of subsurface flow contributions to surface water and the nested influences of geomorphic and hydrometeorological drivers of the hydrological and thermal regimes of the Niaqunngut (Apex) river, Iqaluit, NU ArcticNet Annual Scientific Meeting, Winnipeg, Dec 6-9, 2016, Poster Abstracts, p 159.

Lamoureux, S.F. and Lafrenière, M.J. (2015) Impacts of permafrost change on landscape stability and water quality (Invited-oral) American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec 13-18th, 2015. (INVITED, Oral)

Lafrenière, M.J. and S.F. Lamoureux (2015) Collaboration for Research Success, Invited Plenary, ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015, p.6 (INVITED- Plenary)

Inglese, C., Christiansen, C., Lamhonwah, D. Moniz, K., Montross, S., Lamoureux, S., Lafrenière, M., Grogan, P. and Virginia K. Walker (submitted) Examination of soil microbial communities after permafrost thaw subsequent to an active layer detachment in the High Arctic, ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015 Oral Abstracts p. 123

Rudy, A.C.A, Lamoureux, S.F., Holloway, J., Lafrenière, M.J., Kokelj, S.V., Segel, R., Lantz, T.C., Fraser, R., and I.R. Smith (2015) Watershed delineation of permafrost disturbance on eastern Banks Island, NWT: a geomatic approach for predicting water quality impacts, 7th Canadian Permafrost Conference, GeoQuebec 2015, Quebec; 09/2015.

Lafrenière, M.J., Rutherford, K and Lamoureux S.F. (2015) Seasonal hydrology and permafrost disturbance as controls on the lability of dissolved organic matter in runoff from headwater high arctic catchments. ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015 Poster Abstracts p. 51

Roberts, K., Lamoureux, S., Lafrenière, M.J., T.K. Kyser, Muir, D.C.G. (2015) Arctic Char otolith trace element records of recent environmental change in High Arctic lakes. ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015 Poster Abstracts p. 77

Muir, D., Wang, X., Sett, A., Cabrerizo-Pastor, A., Kirk, J., Iqaluk, D., Roberts, K., Lamoureux, S., and M. Lafrenière (2015) Time trends of mercury in Arctic Char in East and West lake, Cape Bounty Arctic Watershed Observatory, Melville Island, Nunavut, ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015 Poster Abstracts p.64

Chiasson-Poirier, Gabriel, Franssen, JI, Tremblay, T., Lafrenière, M., and S. Lamoureux (2015) Identification and Characterization of physical controls on subsurface flows during baseflow recession in a small arctic river. ArcticNet Annual Scientific Meeting, Vancouver, B.C., Dec 7-11, 2015 Poster Abstracts p. 17

Lafrenière, M.J, Louiseize, NL, Lamoureux S.F. and Hastings, M. 2014. Permafrost Disturbance Impacts on Dissolved Ion Loads and Nitrogen Dynamics GC11F-07 (INVITED-oral), American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec 15-19th, 2014.

Lamoureux, S.F. and Lafrenière, M.J. 2014. Landscape and Hydrological Transformation in the Canadian High Arctic: Climate Change and Permafrost Degradation As Drivers of Change B31D-0036 (INVITED-poster) American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec 15-19th, 2014.

Lamhonwah, D., Lafrenière, M.J., Lamoureux, S.F., Wolfe, B.B. 2014. A multi-year study examining the impacts of a permafrost disturbance and thermal perturbation on High Arctic stream chemistry variability, Cape Bounty, Melville Island, Nunavut, Arctic Change Poster Abstracts 2014, Ottawa, ON, Dec 9-12, 2014 p.99.

Muir, D., Kirk, J., Iqaluk, D., Gleason, A., Wang, X., Sett, A., Lamoureux, S., and M. Lafrenière 2014. Bioaccumulation of mercury in arctic char in East and West lake, Cape Bounty Arctic Watershed Observatory (CBAWO), Melville Island, Nunavut. Arctic Change Poster Abstracts 2014, Ottawa, ON, Dec 9-12, 2014 p.119.

Lamhonwah, D., Lafrenière, M.J., Lamoureux, S.F., Montross, S.N., Wolfe, B.B., Holloway, J.E. 2014. Seasonal evolution of active layer depth and the influence on stream water chemistry in a High Arctic watershed, Cape Bounty, Nunavut. THAW (Thermokarst Aquatic Ecosystems Workshop), Quebec city, PQ, March 13-15, 2014

Lafrenière, M.J. and Lamoureux S.F. 2014. Permafrost disturbance impacts on solute and nutrient export. Proceedings of the 4th European Conference on Permafrost, Evora, Portugal, June 19-21, 2014, p. 133.

Lamoureux, S.F. and Lafrenière, M.J. 2014. Downstream water quality impacts and recovery from permafrost disturbance. Proceedings of the 4th European Conference on Permafrost, Evora, Portugal, June 19-21, 2014, p.46.

Lamoureux, S.F., Lafrenière, M.J. and Favaro, E. 2014. Erosion and downstream transport of sediment from permafrost slope disturbances: recovery times and biogeochemical implications, THAW (Thermokarst Aquatic Ecosystems Workshop), Quebec city, PQ, March 13-15, 2014

Lafrenière, M.J. and Lamoureux S.F. 2014. Scaling disturbance impacts on dissolved loads in streams: lessons from long-term multi-scale studies at the Cape Bounty Arctic Watershed Observatory (CBAWO). Arctic Change Oral Presentation Abstracts 2014, Ottawa, ON, Dec 9-12, 2014 p. 106.

Lamoureux, S.F. and Lafrenière, M.J. 2014. How long does the impact on High Arctic rivers last after an episode of permafrost disturbance? Arctic Change Oral Presentation Abstracts 2014, Ottawa, ON, Dec 9-12, 2014 p. 109.

Christiansen, C., Lamhonwah, D., Moniz, K., Montross, S., Das, P., Walker, V., Lafrenière, M., Lamoureux, S. and P. Grogan 2014. Is everything everywhere? Investigating the importance of scale in spatial variability of permafrost microbial community composition and biogeochemistry. Arctic Change Oral Presentation Abstracts 2014, Ottawa, ON, Dec 9-12, 2014 p.38.

Christiansen, C., Lamhonwah, D., Montross, S., Ingles, C., Moniz, K., Walker, V., Lafrenière, M., Lamoureux, S., Grogan, P. 2013. What does the permafrost contain? A soil depth-specific characterization of microbial community composition and biogeochemistry in a permafrost core from Cape Bounty, Melville Island, NU. ArcticNet 2013 Annual Scientific Meeting, Halifax, Dec 9-12, 2013. p.131

Holloway, J.E., Lamoureux, S.F., Montross, S., Lafrenière, M. 2013. Mud ejections: characterizing subsurface flow pathways from the deep active layer to the surface in the Canadian High Arctic. ArcticNet 2013 Annual Scientific Meeting, Halifax, Dec 9-12, 2013. p.152.

Kjikjerkovska, E., Lamoureux, S., Lafrenière, M., Shirley, J. 2013. Thirty years of hydrological and water source changes in the Apex River, Iqaluit, Baffin Island. ArcticNet 2013 Annual Scientific Meeting, Halifax, Dec 9-12, 2013. p.157.

Muir, D.C.G., Kirk, J.L., Gleason, A., Wang, X., Sett, A., Iqaluk, D., Lamoureux, S., Lafrenière, MJ. 2013. Bioaccumulation of mercury in arctic char in East and West Lake, Cape Bounty Arctic Watershed Observatory, Melville, Island, NU. ArcticNet 2013 Annual Scientific Meeting, Halifax, Dec 9-12, 2013. p.159.

Lamhonwah, D., Lafrenière, M., Lamoureux, S., Montross, S., Wolfe, B. 2013. An end member mixing analysis (EMMA) approach to partitioning water sources in a High Arctic hillslope catchment, Cape Bounty, Melville Island, NU. ArcticNet 2013 Annual Scientific Meeting, Halifax, Dec 9-12, 2013. p.161

Lafrenière, MJ, Montross SN, Holloway JE, and Lamoureux SF 2013. Subsurface mineral weathering in transient layers of permafrost in the Canadian High Arctic, www.minersoc.org
DOI:10.1180/minmag.2013.077.5.12 p.1538

Abnizova, A., Young, K., and Lafrenière, M.J. 2013. Hydrologic connectivity and dissolved organic carbon fluxes in low-gradient High Arctic wetland ponds, Polar Bear Pass, Bathurst Island, Canada. . Proceedings of the 19th International Northern Research Basins Conference, South-central Alaska, August 11-17th.

Young, K.L., Lafrenière, M.J., Lamoureux, S., Abnizova, A., Miller, E. 2013. Seasonal stream regimes and water budgets of hillslope catchments, Polar Bear Pass and Cape Bounty, Nunavut. Proceedings of the 19th International Northern Research Basins Conference, South-central Alaska, August 11-17th.

Lamoureux SF, Lafrenière MJ 2012. Hydrological impacts of climate change on High Arctic rivers: findings from a decade of research at the Cape Bounty Arctic Watershed Observatory (CBAWO), Melville Island, Nunavut. (oral, invited plenary talk) Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.22

Holloway JE, Lamoureux SF, Montross SN, Lafrenière, MJ 2012. Mud ejections: characterizing emerging subsurface flow pathways from the deep active layer to the surface in the Canadian High Arctic. Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.139

Kirk JL, Lehnerr I, Muir D, Gleason A, St Louis V, Lamoureux SF, Lafrenière ML, Stewart K 2012. The transfer of terrestrial mercury to freshwater aquatic ecosystems at Cape Bounty, Melville Island, Nunavut. Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.140

Louiseize N, Montross SN, Lafrenière, MJ and Montross G. 2012. Carbon and nitrogen dynamics in thermokarst ponds at Sabine Peninsula, Nunavut, Canada. Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.150

Montross SN, Lafrenière, MJ, Holloway JE, and Lamoureux SF. 2012. Geochemistry and mineralogy of mud ejection features in continuous permafrost zones. Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.155-156

Muir D, Kirk JL, Gleason A, Wang S, Sett A, Iqaluk D, Iqaluk B, Lamoureux SF, Lafrenière ML 2012. Bioaccumulation of mercury in Arctic Char in East and West lakes, Cape Bounty Arctic Watershed Observatory, Melville Island, Nunavut. Proceedings of ArcticNet Annual Scientific Meeting 2012, Vancouver, BC, Dec 10-14, p.157

Wasiuta VL, Lafrenière MJ, Kyser K, Norman A-L, Hastings M 2012. Controls on summer deposition of atmospheric sulphate and nitrogen in alpine valleys of the Southern Canadian Rocky Mountains,

Mineralogical Magazine, 76(6) 2524 Goldshmidt 2012, Montreal, Canada, June 24–29, 2012.

Lafrenière, M. J, S. F. Lamoureux, and H. Munro 2012. Impact of Warming and Permafrost Disturbance on Solute and Nutrient Export in High Arctic Watersheds, IPY 2012 from Knowledge to Action, April 22–29, 2012 (oral)

Research Funds – External/Internal

Period of Funding	Role	Principal Applicant	Funding Organization	Title	Amount (CAN\$)
2017-2018	Principal Investigator	Lafrenière, MJ	NSERC -Research Tools and Instruments	Advanced ion chromatography for assessing permafrost degradation impacts on water quality and organic carbon composition and dynamics,	\$147,815
2016-2021	Major User	Sharp, M.	CFI Exceptional Opportunities Fund	Canadian Ice Core Archive	\$1,771,511
2015-2018	Co-applicant	Richarson, M (Carleton)	Polar Knowledge Canada, Science and Technology	Partnership for integrated hydrological and water quality monitoring, research and training in the Apex River watershed, Iqaluit, NU	\$156,342
2015-2016	Principal Investigator	Lafrenière, MJ	NSERC -Research Tools and Instruments	Queen's Arctic Water Laboratory (QuAWLity)	29,040
2015/4-2018/3	Co-Principal Investigator (PI)	Lafrenière, MJ and Lamoureux, SF	ArcticNet, Networks of Centres of Excellence (NCE)	Water quality and security in a changing arctic	428,122
2014/4-2019/3	Principal Investigator	Lafrenière, MJ	NSERC Discovery Grant	Biogeochemical response of High Arctic watersheds to changing permafrost and hydrology	270,000
2014/4-2019/3	Principal Investigator	Lafrenière, MJ	NSERC Discovery Northern Supplement	The response of water quality of Arctic watersheds to changing permafrost and hydrology	100,000
2011/7 - 2015/6	Co-applicant	Warwick, V	NSERC Discovery Frontiers	Arctic Development and Adaptation to Permafrost in Transition (ADAPT)	4,000,000
2011/4 - 2015/3	Co-PI	Lamoureux, SF and Lafrenière MJ	ArcticNet NCE	High Arctic hydrological, landscape and ecosystem responses to climate change	424,770
2014/4-	Co-PI	Lamoureux, SF	ArcticNet NCE -	Landscape and aquatic	26,800

2014/9		and Lafrenière MJ	Field Aircraft Support Program	system processes and impacts due to changing permafrost	
2014/4- 2014/9	Co-PI	Lamoureux, SF and Lafrenière MJ	PCSP -in kind logistics, Natural Resources Canada	Integrated landscape and aquatic system processes and impacts due to changing permafrost	69,600
2010/1 - 2013/12	Co-PI	Lafrenière, MJ and Lamoureux SF	NSERC Strategic Projects Grant	Modeling High Arctic permafrost landscape stability and water quality for changing climate and resources development	597,475
2013/4- 2013/9	Co-PI	Lamoureux, SF and Lafrenière MJ	ArcticNet NCE - Field Aircraft Support Program	Landscape and aquatic system processes and impacts due to changing permafrost	32,000
2013/4- 2013/9	Co-PI	Lamoureux, SF and Lafrenière MJ	PCSP -in kind logistics, Natural Resources Canada	Spatial dimensions and downstream impacts of permafrost perturbation on High Arctic terrestrial and aquatic systems	70,000
2012/4 - 2013/3	Co-applicant	Novakowski, K	NSERC Research Tools and Instruments (RTI)	Rapid Field Measurement of the Stable Isotopes of Water	69,189
2012/4 - 2012/8	Co-Lead	Lafrenière, MJ and Lamoureux, SF	ArcticNet NCE Field Aircraft Support Program	Landscape and aquatic system processes and impacts due to changing permafrost	30,000
2012/4 - 2012/8	Co-Lead	Lamoureux SF and Lafrenière, MJ	PCSP -in kind logistics, Natural Resources Canada	Landscape and aquatic system processes and impacts due to changing permafrost	70,113
2008/3 - 2012/2	Co-applicant	Johnson, E.	NSERC - Major Resources Support Program	Biogeosciences Institute	580,000
2011/4 - 2011/9	Co-Lead	Lamoureux SF and Lafrenière, MJ	PCSP -in kind logistics, Natural Resources Canada	High Arctic permafrost landscape stability and water quality, Sabine Penninsula and Cape Bounty, Melville Island.	54,725
2011/4 - 2011/8	Co-Lead	Lafrenière, MJ and Lamoureux, SF	ArcticNet NCE Field Aircraft Support Program	High Arctic permafrost landscape stability and surface water quality, Sabine Penninsula and Cape Bounty, Melville Island	24,675
2005/4- 2011/3	Principal Investigator	Lafrenière, MJ	NSERC Discovery Grant	Carbon and Nitrogen dynamics in alpine environments	121,200
2008/4 -	Co-PI	Lamoureux, SF	ArcticNet NCE	High Arctic hydrological,	333,480

2011/3		and Lafrenière MJ		landscape and ecosystem responses to climate change	
2010/4 - 2010/9	Co-Lead	Lamoureux SF and Lafrenière, MJ	PCSP -in kind logistics, Natural Resources Canada	The Impact of Permafrost Disturbance on Landscape Stability and Surface Waters , Melville Island	62,700
2007/4 - 2010/3	Co- Investigator	Lamoureux, SF	International Polar Year (IPY) Government of Canada	Climate change and permafrost impacts on High Arctic watershed fluxes: Cape Bounty, Melville Island experimental watershed observatory	\$669734

Service and Administration – External/Internal

2017-present	Associate Editor: Arctic Science
2016-2017	Grant Committee Member: NSERC Operations and Maintenance Support for Research Equipment (OMSRE) Funding Opportunity 2017 Competition.
2016-present	Member of the Board of Directors, ArcticNet NCE, Elected Representative of Network Investigators
2017-03	External Reviewer for BA programs for University of Ottawa, Department of Geography, Environment and Geomatics
2016-1	Reviewer for Queen's Major Entrance Awards
2016/3-2016/4	External Reviewer for University of Ottawa, Undergraduate programs in the Department of Geography, Environment and Geomatics
2015/5-2015/6	School of Graduate Studies, Scholarships and Fellowship Committee, Internal Awards Competition
2013/6- 2015/12	Associate Editor, Journal of Hydrology
2013/3-2015/3	Stan Paterson Award Committee - Canadian Geophysical Union
2014/7 - 2015/6	Department of Geography, Renewal Tenure and Promotion (RTP) Committee
2014/1-2015/7	Science Graduate Council - Queen's University at Kingston
2014/9- 2014/12	NSERC Site Visit Committee
2014/1-2015/7	Department of Geography, Graduate Committee
2013/1-2013/7	Department of Geography, Adjunct Appointments Committee
2013/1-2013/7	Department of Geography, Graduate Committee
2010/7-2011/7	Science Graduate Council - Queen's University at Kingston
2008/12- 2009/7	Session Co-Convener IACS (International Association of Cryospheric Sciences) Symposium - Conference
2010/1-2011/7	Department of Geography, Graduate Committee
2010/1-2011/7	Science Graduate Council - Queen's University at Kingston
2010/10 -2011/2	Comité multidisciplinaire pour le Programme de nouveau chercheurs - • Fonds québécois de la recherche sur la nature et les technologies Description: This committee evaluated applications for research and equipment funding for new researchers, in the natural and physical sciences.
2008/10-2009/8	Member of Organizing Committee for 17th International Northern Research Basins Symposium and Workshop -Conference
2007/7 - 2009/6	Department of Geography, Graduate Committee
2007/9 - 2009/5	Senate Residence Committee - Queen's University at Kingston

DR. MELISSA LAFRENIÈRE

Associate Professor

2007/7 - 2009/6 Department of Geography, Renewal Tenure and Promotion (RTP) Committee
2006/7 - 2009/5 School of Graduate Studies, Division IV (Physical Sciences) Committee -
Queen's University at Kingston